

ABSTRACT

5 The present invention is an apparatus for Fourier transform
spectrometry using a fixed or non-scanning interferometer wherein a pair
of separated phase related electromagnetic or radiant sources produce an
interference pattern that is detected and converted into its respective
spectral content by a stationary converter. One application for this
apparatus includes analyzing signal from a Bragg fiber-grating sensor.
10 When coupled to a Bragg fiber-grating sensor this apparatus forms the
basis of a wavelength demodulator. This demodulator converts optical
frequencies down to electrical frequencies that can be readily measured
with an electronic converter. This fixed interferometer has no moving
parts, which greatly reduces its complexity and cost compared to a
15 scanning interferometer.

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